UNISYS CTOS®

# Getting Started with Integrated Event Monitor

Copyright © 1991 Unisys Corporation
All rights reserved.
Unisys is a registered trademark of Unisys Corporation.
CTOS is a registered trademark of Convergent Technologies Inc.

Release 2.0 January 1991

Printed in U S America
Priced Item 4164 0152–000

The names, places, and/or events used in this publication are not intended to correspond to any individual, group, or association existing, living, or otherwise. Any similarity or likeness of the names, places, and/or events with the names of any individual, living or otherwise, or that of any group or association is purely coincidental and unintentional.

NO WARRANTIES OF ANY NATURE ARE EXTENDED BY THE DOCUMENT. Any product and related material disclosed herein are only furnished pursuant and subject to the terms and conditions of a duly executed Program Product License or Agreement to purchase or lease equipment. The only warranties made by Unisys, if any, with respect to the products described in this document are set forth in such License or Agreement. Unisys cannot accept any financial or other responsibility that may be the result of your use of the information in this document or software material, including direct, indirect, special or consequential damages.

You should be very careful to ensure that the use of this information and/or software material complies with the laws, rules, and regulations of the jurisdictions with respect to which it is used.

The information contained herein is subject to change without notice. Revisions may be issued to advise of such changes and/or additions.

Comments or suggestions regarding this document should be submitted on a User Communication Form (UCF) with the CLASS specified as "Documentation", the Type specified as "Trouble Report", and the product specified as the title and part number of the manual (for example, 4164 0152–000).

Use, duplication, or disclosure by the United States government is subject to restrictions as set forth in subparagraph (c)(1) of the Commercial Computer Software – Restricted Rights Clause at FAR 52.227–19 or subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 52.227–7013.

ORACLE is a registered trademark of ORACLE Corporation.

# Page Status

| Page | Issue |
|---|---|
| iii | Original |
| iv | Blank |
| v through vii | Original |
| viii | Blank |
| ix through xi | Original |
| xii | Blank |
| xiii | Original |
| xiv | Blank |
| xv | Original |
| xvi | Blank |
| 1–1 through 1–4 | Original |
| 2–1 through 2–3 | Original |
| 2–4 | Blank |
| 3–1 through 3–4 | Original |
| 4–1 through 4–9 | Original |
| 4–10 | Blank |
| 5–1 through 5–15 | Original |
| 5–16 | Blank |
| 6–1 through 6–3 | Original |
| 6–4 | Blank |
| 7–1 through 7–4 | Original |

# About This Guide

This guide is intended to show how to install, configure and start up a management center incorporating the package CTOS Integrated Event Monitor (IEM).

This guide includes diskettes which contain configuration scripts for IEM. These diskettes are intended to be used to configure an example system which will demonstrate IEM in action. You can simplify the task of configuring your own IEM system by copying and modifying the configuration files from the example diskettes, rather than starting afresh.

## Scope

This guide is concerned with installing and getting started with IEM. Details of the use of the facilities provided by IEM and CTOS Local Event Management (LEM) can be found in the documents listed in this section under "Related Product Information".

CTOS is the collective name for the following Unisys and Convergent operating systems:

- BTOS II, Version 3.2 with Standard Software Version 12.0
- CTOS/XE, Version 3.0 with Standard Software Version 12.0

The term CTOS also describes the entire family of workstations and shared resource processors which run under the CTOS operating system.

## Audience

Node administrators, configuration managers and support engineers who are concerned with the installation and configuration of IEM should read this guide.

# Prerequisites

Users of this guide should be familiar with CTOS and have read the *CTOS InControl Overview*.

# How to Use this Guide

This guide is divided into seven sections.

**Section 1, "Introduction"**, contains a description of the scope of IEM and the type of system which it can manage.

**Section 2, "Hardware"**, lists the types of hardware and the features and capacities required to run IEM successfully. This section includes advice on hardware configuration.

**Section 3, "Software"**, shows which software is required on each type of workstation.

**Section 4, "Software Installation"**, provides advice on installing the IEM package and ORACLE from diskettes onto hard disks.

**Section 5, "Installing and Configuring an Example System"**, describes an example IEM system and how to install and configure it.

**Section 6, "Starting Up the Example System"**, tells you how to run the example system, and describes the output from the system, as a check.

**Section 7, "Example System Software"**, lists the software installed on each machine in the example system and contains a list of the configuration files used to build the example system.

To install, configure and run software to create a working example IEM management center, you must carry out the following tasks:

- Install the required applications which are listed in Section 3 according to the instructions given in Section 4.
- Install and modify the required configuration files and run the database creation scripts, as described in Section 5.
- Start up the system as described in Section 6.

# Related Product Information

The following document should be considered as prescribed reading for all users of this guide:

*CTOS InControl Overview*

The following documents cover the installation, configuration and administration of IEM and LEM:

*CTOS Integrated Event Monitor Administration Guide*

*CTOS Integrated Event Monitor Database Administration Guide*

*CTOS Local Event Management Administration Guide*

*CTOS Getting Started with Local Event Management*

*CTOS Local Event Management Event Manager Administration and Programming Guide*

The following document describes Remote Access Facility:

*CTOS Remote Access Facility Installation and Administration Guide*

The following documents deal with environment software which is referred to in this guide:

*CTOS Local Event Management Event Manager Administration and Programming Guide*

*BTOS BNet II Installation Configuration and Administration Guide*

*BTOS OSI Transport LAN Operations Guide*

*BTOS X.25 Gateway Operations and Programming Guide*

*BTOS II ORACLE Installation and Configuration Guide*

*BTOS II ORACLE SQL*Plus User's Guide*

*BTOS II Standard Software Operations Guide*

*BTOS Generic Print System (GPS) Installation and Administration Guide*

*BTOS OSI Session Programming Reference Manual*

# Contents

**About This Guide** ..... v

**Section 1. Introduction**

**System Description** ..... 1–1
Managed System Components ..... 1–1

**Section 2. Hardware**

**Management Center Workstations and Servers** ..... 2–1
Multi–Server Management Center ..... 2–1
**Hardware Models and Features** ..... 2–2
Hard Disk Size ..... 2–3
**Hardware for a Single–Server Center** ..... 2–3
**Video Recording System** ..... 2–3

**Section 3. Software**

**Software Requirements** ..... 3–1
Request Sets ..... 3–3
Intermediate Nodes ..... 3–3

## Section 4. Software Installation

**Preparing for Installation** ..... 4–1
**Installing Environment Software** ..... 4–1
Environment Software ..... 4–2
Communications Software ..... 4–2
**IEM Software Installation Procedure** ..... 4–2
CTOS Workstation Installation ..... 4–3
XE–530 Installation ..... 4–4
**Software Installation Information** ..... 4–6
**ORACLE Components** ..... 4–7
**Installing ORACLE Software** ..... 4–7

## Section 5. Installing and Configuring an Example System

**Description** ..... 5–1
**Hardware Description** ..... 5–2
Minimum Installation ..... 5–3
**Software Installation** ..... 5–3
**Software Configuration** ..... 5–4
**Single Server Management Center** ..... 5–4
**Installing the Example Configuration Data** ..... 5–4
Installation Procedure ..... 5–5
**Modifying the Example Configuration** ..... 5–7
Remote Managed Site ..... 5–8
**Files Which Need Modifying** ..... 5–8
**Configuration Change Details** ..... 5–9
Changes to file BNetAddrs.Cfg ..... 5–9
Changes to file LDMNames.Config ..... 5–11
Changes to file OSILocalNSAPCnfg.Sys ..... 5–11
Changes to file LAPBParam.Cfg and X25PktParam.Cfg ..... 5–12
**Example Configuration Data** ..... 5–12
**Configuring the Database System** ..... 5–12
**Configuring the Controller Server** ..... 5–12
**Configuring the Database Servers** ..... 5–13
**Views** ..... 5–14

## Section 6. Starting Up the Example System

**Where To Start** ..... 6–1
**Starting Up** ..... 6–1
Starting the Hardware ..... 6–1
Starting the Software ..... 6–2
Testing the System ..... 6–3

## Section 7. Example System Software

**Using the Getting Started Diskettes** ..... 7–1
**Software Installed** ..... 7–1
**Example System Configuration Files** ..... 7–2
**Single Server Configuration** ..... 7–2

# Figures


1–1. Management Center – IEM Distributed in Several Servers ..... 1–3
1–2. Management Center – IEM in Single Server ..... 1–4

5–1. Example System Hardware ..... 5–2
5–2. Network Configuration Utility Screen ..... 5–10

6–1. Event Summary Window ..... 6–2

# Tables


| | | |
|---|---|---|
| 2–1. | Hardware Sizes and Features – Multi–Server Center | 2–2 |
| 3–1. | IEM Software Requirements | 3–2 |
| 3–2. | Environment Software Requirements | 3–3 |
| 4–1. | IEM Software Installation Information | 4–6 |
| 4–2. | ORACLE Components | 4–7 |
| 4–3. | ORACLE Software Installation Information | 4–8 |
| 5–1. | Files Which Need Modifying | 5–8 |
| 5–2. | Controller Server Example Tables | 5–12 |
| 5–3. | Tables and Data for Database Server | 5–13 |
| 5–4. | Example Views for Database Server | 5–14 |
| 7–1. | IEM Software Run Files | 7–2 |
| 7–2. | Configuration Files | 7–3 |

# Section 1
# Introduction

This section contains a brief introduction to CTOS Integrated Event Monitor (IEM).

## System Description

IEM provides facilities for managing a distributed system by receiving, storing and retrieving Events. IEM provides facilities for viewing and managing Events through a windowed user interface called Display Manager (DM).

IEM runs in a management center, monitoring and managing Events which originate in managed sites or in the management center. Management center controllers are the people who use IEM to monitor and manage Events.

### Managed System Components

Three subsystems must function to provide a managed system:

- Event originators, that is, software running in a managed site, generating and collecting Events and forwarding them to a management center
- Communication channels between Event originators and a management center
- Storage, retrieval and management systems in the management center for Events received

The facilities provided by IEM can be configured in a number of ways:

- A system may include a few remote nodes or a large number of them
- Communication to remote observed nodes can be by any medium over which BNet sessions can be established
- Storage of Events is accomplished by one or more ORACLE Relational Database Management Systems (RDBMS), as required

A number of applications must be installed to implement an IEM management center. These are listed in Section 3.

This guide describes the configuration of the hardware and software used to create an example system. The configuration files and database creation scripts needed to set up the example system are supplied on diskettes with this guide.

You can copy and modify the example configuration files to simplify implementation of other systems.

Figure 1–1 shows a management center in which the components of IEM are distributed through four servers.

Further gateway servers can be added to the example in Figure 1–1 to provide multiple gateways, further controller workstations can be added for more controllers, and further database servers can be added to accommodate Event databases spread over multiple servers.

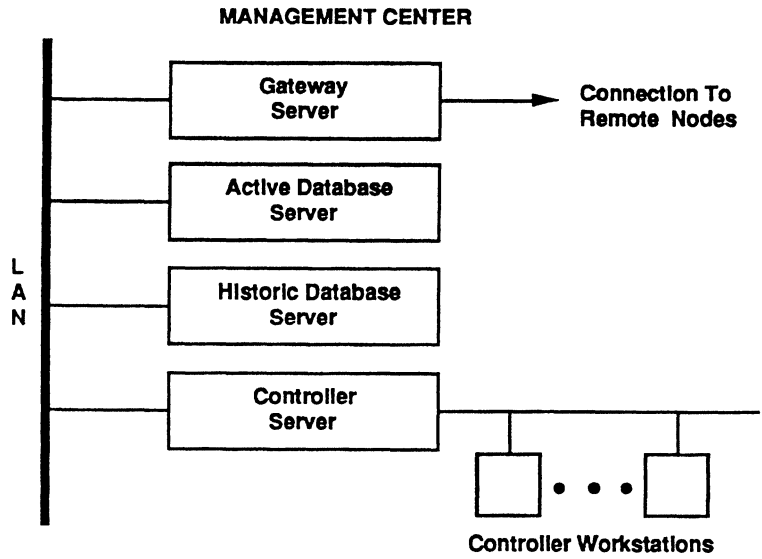


**Figure 1–1. Management Center – IEM Distributed In Several Servers**

All the components of IEM can be installed on a single B39 or an XE–530, as shown in Figure 1–2.

IEM provides Event management facilities. Events originate from applications in the managed sites in a distributed system. In the sites, the Event Transmitter program (ET) runs in CTOS servers, collecting and forwarding Events for insertion into an Event database, or into a log file. Each instance of ET acts as an Event source, and, together with the servers from which it collects Events, is called a node.

The software products, including ET, which run in nodes in the managed sites, collecting and forwarding Events to a management center, are called Local Event Management (LEM).

LEM is run within a management center to enable collection and observation of Events which occur within the management center, and is run in each remote managed site in the distributed system.

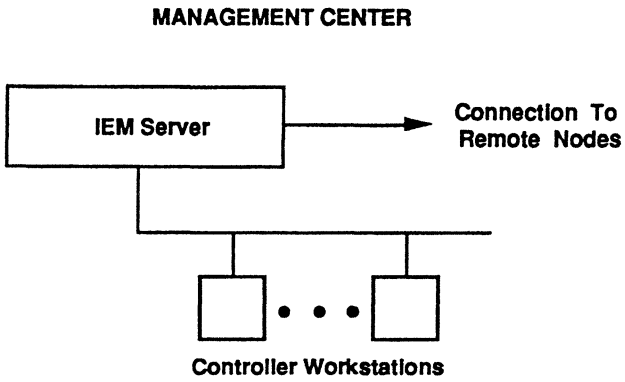


Figure 1–2. Management Center – IEM in Single Server

# Section 2
# Hardware

This section gives a description of the types of hardware required to implement a management center,

## Management Center Workstations and Servers

In a multi–server management center, management center hardware consists of interconnected CTOS servers, and cluster workstations connected to the servers.

A management center can be implemented using a single B39 or an XE–530 server. This is called a single server management center.

### Multi–Server Management Center

The names of the servers and workstations and their functions are:

- **Gateway server** – provides access to a communication channel between the center LAN and remote managed sites
- **Controller server** – provides controllers with access to the database and Event management software
- **Controller workstations** – clustered off the controller server, to provide workstations for controllers
- **Active database server** – stores Events as they arrive from the network and retains them for controller action until they are resolved and moved to the historical database
- **Historic database server** – is intended to store Events which do not require controller action (Log Events) or Events which have been resolved

For larger systems, several machines of the same type may be required.

# Hardware Models and Features

Table 2–1 shows recommended minimum configurations for the multi–server management center servers and workstations. The configurations assume that the servers will be interconnected by a LAN and that communication to managed sites will be by means of a packet switched network. Other methods of connection are possible.

**Table 2–1. Hardware Sizes and Features – Multi–Server Center**

| Workstation Type | Model | RAM | Hard Disk | LAN Module | IDS or ID2 | Tape Streamer (TS2) |
|---|---|---|---|---|---|---|
| Gateway server | B38 | 4MB | 20MB | Yes | Yes | No |
| Controller server | B39A | 8MB | [140MB] | Yes | No | No |
| Controller workstation | B28 | 4MB | – | No | No | No |
| Active database server | B39B | 8MB | [320MB] | Yes | No | No |
| Historic database server | B39B | 8MB | [320MB] | Yes | No | Yes |

**Abbreviations:** IDS – Intelligent Data Communications Module
ID2 – Intelligent Data Communications Module

*Notes:*

- *An IDS can function with V.24 protocol only. An ID2 can function with V.24 or X.21.*
- *Figures in square brackets indicate the disk drives installed as standard in the B39A and B39B.*

### Hard Disk Size

The sizes of the Event databases are the overriding factors which determine the disk capacities required.

The overall specification of the system and operating practices will determine the sizes of the Event databases, but in general fixed tables can be ignored in size calculations because the Event tables (SMS$EVENTS_*x* and SMS$EH_*x*) are comparatively large.

As a rough guide, based on test systems, each ORACLE database can store an Event in 1 kilobyte, or 1000 Events per megabyte.

In a properly managed system the historical database will be larger than the active database. If disks with differing capacities are used, the historic database server should be equipped with the larger disk.

## Hardware for a Single–Server Center

A management center can be implemented using a single B39B or an XE–530.

According to the type of communication channel used to connect remote managed sites to the center, appropriate communications hardware is required.

## Video Recording System

Installation of Video Recording System (VRS) means installing three modules:

- Video Recorder
- Video Recorder Command and Control Utility (VCCU)
- Video Player

Video Recording System software will operate on a B28, B38 or B39 with access to a hard disk. The correct functioning of the system is dependent on the playing back being done on a Unisys B20 monitor that is compatible with the equipment from which the recording was taken. Screen activity controlled by Graphics Slice hardware that does not use the CTOS character map will not be recorded. The maximum number of characters on a screen line has to be set to 80—the feature of 132 or 150 characters per line is not supported.

# Section 3
# Software

This section shows which software is required on each type of server.

## Software Requirements

Each type of server and workstation in a management center requires a different minimum set of software. The required software is divided into IEM software, delivered as part of the IEM product, and environment software, which forms the environment that IEM requires.

In the case of a single–server center, all of the IEM software is loaded onto one server.

Table 3–1 shows IEM applications and which servers require them, and Table 3–2 shows environment applications and which servers require them. The document *Getting Started with LEM* lists Local Event Management (LEM) applications which must be installed on any server from which Events can be generated.

If you want Events which originate from the workstations in a management center to be made available to the IEM software, you must also install the LEM software in the management center workstations. Details of LEM installation are given in the document *Getting Started with LEM*.

Note that, apart from using up disk space, installing IEM, LEM, or environment software beyond the minimum requirement will have no adverse effect.

**Table 3–1. IEM Software Requirements**

| Program Name or Request Set | Gateway Server | Controller Server | Event Database Servers | Controller Workstation With LFS |
|---|---|---|---|---|
| Database Utilities (Compare Table Utility (CTU), Move Event Utility (MEU)) | | X | X | |
| Database Insert utility (DBI) | | | X | |
| Display Manager | | X | | X |
| Event Display (ED) | | X | | X |
| EDReport | | X | | X |
| Manual Event Generator (MEG) | | X | | X |
| Video Recording System (VRS) | | X | | X |
| VR Command and Control Utility (VCCU) | | | | |
| Video Player | | X | | X |
| Video Recorder | | X | | X |
| IEM Request Set | X | X | X | X |

*Notes:*

- *Request sets must be installed on intermediate nodes.*
- *In a single–server center, all applications shown must be installed on the server.*

## Request Sets

IEM Request Set refers to groups of CTOS requests required by the IEM applications. They must be installed on all machines. The installation procedures will automatically copy the entire IEM request set onto disk if any IEM application is installed on the server or workstation, and the entire LEM request set onto disk if any LEM application is installed on the server or workstation.

## Intermediate Nodes

A management center may contain servers which do not contain any IEM or LEM applications, but which are connected between servers which do, forming part of the communication link between the LEM or IEM servers. A server in such a position is called an intermediate node. The LEM and IEM request sets must be installed on intermediate nodes.

**Table 3–2. Environment Software Requirements**

| Program Name | Gateway Server | Controller Server | Event Database Server | Controller Workstation with LFS |
|---|---|---|---|---|
| CTOS | X | X | X | X |
| BNet II | X | X | X | X |
| Context Manager | (X) | X | (X) | X |
| BTOS Generic Print System | (X) | X | X | |
| ORACLE | | X | X | X |
| ORACLE SQL*Plus | | X | (X) | X |
| ORACLE SQL*Loader | | X | (X) | X |

continued

**Table 3–2. Environment Software Requirements** (cont.)

| Program Name | Gateway Server | Controller Server | Event Database Server | Controller Workstation with LFS |
|---|---|---|---|---|
| **Communications Software** | | | | |
| BTOS OSI Transport LAN | X | X | X | |
| BTOS OSI Session | X | X | X | |
| BTOS OSI Transport WAN | X | | | |
| BTOS X.25 Gateway | X | | | |

***Note:*** *Items shown in parentheses (X) are optional.*

*The programs shown under the heading Communications Software form a typical communications stack. Different approaches are possible.*

# Section 4
# Software Installation

This section tells you how to install IEM and ORACLE software from diskettes.

## Preparing for Installation

Prepare for installation according to the type of system on which you are installing IEM.

- On a CTOS server workstation, disable the cluster line before installing.
- On a CTOS cluster workstation with Local File System, install the software onto the local disk. No special preparation is required.
- On an XE–530 Shared Resource Processor, disable all cluster stations except the cluster station from which you are installing.

Before installing IEM software, ensure that the environment software is installed, and that only CTOS is running.

> **Caution**
>
> The configuration files on the Getting Started diskettes are copied to hard disk, overwriting any files with the same name. Backup or rename existing configuration files in order to preserve their contents.

## Installing Environment Software

For software installation procedures refer to the documentation for the environment applications to be installed.

Note that the example configuration files listed in Section 7 will provide a guide to the configuration of environment software.

Because the software installation of ORACLE is a large and essential task, guidance on the installation of ORACLE is given at the end of this section.

IEM requires CTOS Standard Software Version 12.0. In addition to the standard software ensure that the following software is installed.

### Environment Software

BNet II
Context Manager
Generic Print System
ORACLE RDBMS
ORACLE SQL*Plus
ORACLE SQL*Loader

### Communications Software

BTOS OSI Transport–LAN
BTOS OSI Transport–WAN
BTOS X.25 Gateway
OSI Session

Note that the items under Communications Software may be replaced according to the communications system you are using.

## IEM Software Installation Procedure

Before proceeding with installation, be sure that you know which applications you need to install on each workstation. Information about this is in Section 3 of this guide.

Software is provided on diskettes and is installed directly on the appropriate workstation.

The IEM product diskettes for installation on CTOS workstations are marked **MB25IEM–1/1**, **MB25IEM–1/2**, **MB25IEM–1/3**, and **MB25IEM–1/4**.

The IEM product diskettes for installation on XE-530 shared resource processors are marked **XB25IEM-1/1** through **/4**.

Separate instructions are given for installing on CTOS workstations and an XE–530. The procedures are similar, but for an XE–530 installation you must select the **Public Installation** option.

## CTOS Workstation Installation

Follow these steps to perform software installation, but note that any special instructions for installing each application are included in Table 4–1.

1. Insert the diskette labeled MB25IEM 1/1 into the drive on the workstation.
2. On the CTOS Executive command line enter the command:

   **Installation Manager**

   and press **GO**.
3. Select **Install New Software** from the menu, and press **GO**.

   From the next menu select **Floppy Installation** and press **GO**.

   The next menu will offer you **Change/Examine Defaults** or **Continue Installation**. If you select **Change/Examine Defaults**, fill in the menu which appears and press **GO**.

   Select **Continue Installation** and press **GO**.
4. The system will ask "Do you wish to configure any of the installation?" If you select **NO**, all IEM applications will be installed on the disk. Go to step 6. If you choose **YES**, go to step 5.
5. The screen will show a list of the IEM applications. Use the **MARK** and **BOUND** keys to select the applications you want to install on the workstation, and press **GO**.

   The system will prompt you to enter a path and a command file for the configuration. Either accept the defaults by pressing **GO** or make valid changes, and press **GO**.

6. For each application to be installed, the system will ask "Do you wish to configure the installation?" If you select **NO** then all components of that application will be installed. If you select **YES**, a menu will offer you the choice of which components to install. Using the **MARK** key, choose the components you wish to install and press **GO**. You will then be prompted for a path for the installation of the components you selected. Accept the default or enter a valid path.
7. Follow the instructions that appear on the display. You will have to wait some time while the system creates requests in the **Request.sys** file on the workstation. Menus will appear, enabling you to select software options. See Table 4–1 for advice on which options to select.
8. When the software has finished loading, remove the diskette.
9. The instructions will prompt you to reboot the system after the software is loaded. If you are installing several separate programs there is no need to reboot after each program is installed. Reboot when you have installed all the software.

## XE–530 Installation

Follow these steps to perform software installation, but note that any special instructions for installing each application are included in Table 4–1.

1. LEM software for an XE–530 is on the diskettes labeled XB25IEM 1/1 through /4. Insert diskette number 1 into the F0 drive on the cluster workstation from where you are installing.
2. On the CTOS Executive command line enter the command:

| |
|---|
| **Installation Manager** |

and press **GO**.

3. Select **Install New Software** from the menu, and press **GO**.

   From the next menu select **Floppy Installation** and press **GO**.

   The next menu will offer you **Change/Examine Defaults** or **Continue Installation**. Select **Change/Examine Defaults**, and enter **Yes** for **Public Installation** in the menu.

   Select **Continue Installation** and press **GO**.

4. The system will ask "Do you wish to configure any of the installation?"

   If you choose **YES**, go to step 5.

   If you select **NO**, all IEM applications will be installed on the disk, and for each application all options will be installed. Insert the second diskette when the system prompts you to. Go to step 8.

5. The system will prompt you to enter a path and a command file for the installation. Change the path to that of the server, for example, [!Sys]<Sys>, and press **GO**.

   The screen will show a list of the IEM applications. Use the **MARK** and **BOUND** keys to select the applications you want to install on the XE–530, and press **GO**.

6. For each application to be installed, the system will ask "Do you wish to configure the installation?"

   If you select **YES** go to step 7.

   If you select **NO** then all components of that application will be installed. Go to step 8.

7. You will be prompted for a path for the installation of the components you are about to install. Change the path to that of the server, for example, [!Sys]<Sys>, and press **GO**. A menu will offer you the choice of which components to install. Using the **MARK** key, choose the components you wish to install and press **GO**. See Table 4–1 for advice on which options to select.

8. When the software has finished loading, remove the floppy disk.

9. The instructions will prompt you to reboot the system after the software is loaded. If you are installing several separate programs there is no need to reboot after each program is installed. Reboot when you have installed all the software.

# Software Installation Information

Table 4–1 lists IEM applications and shows which software each application depends upon. Follow the advice about which options to select if you chose to configure that application when installing it. Note that some of the applications required are included in LEM. .

**Table 4–1. IEM Software Installation Information**

| Module | Other Software Required | Comments and Advice |
|---|---|---|
| Database Utilities (DBU) | ORACLE | Select both CTU and MEU. |
| DBI | BNet, EM | Select all options. |
| Display Manager | Mouse Server, ORACLE | Select all options. |
| Event Display | DM, GPS | Select all options. |
| MEG | DM, EC, EM | Select the single option. |
| VRS | EC, EM | Select all options. Select commands according to which capabilities are required for the workstation. |
| IEM Request Codes | | These are automatically installed if any of the IEM applications are installed. See the subsections Request Sets and Intermediate Nodes in Section 3. |

# ORACLE Components

The components listed in Table 4–2 form the ORACLE Relational Database Management System (RDBMS), and enable you to work with the database table data.

**Table 4–2. ORACLE Components**

| Name | Function |
|---|---|
| ORACLE RDBMS | Management of the tables and views which form the database |
| SQL*Plus | Direct user interface to ORACLE RDBMS |
| SQL*Loader | A utility for loading prepared data into database tables |

# Installing ORACLE Software

Follow the procedure given under "Software Installation Procedure" earlier in this section. Table 4–3 gives some details of the installation of each module.

**Table 4–3. ORACLE Software Installation Information**

| Module | Comments and Advice |
|---|---|
| ORACLE RDBMS | There are 3 disks called "1 of 10 ".<br>Use the disk labelled "1 of 10 – Any number of users ".<br>If you are installing on a cluster workstation with Local File System (that is, a cluster workstation with its own hard disk), install only the ORACLE CTOS requests on the disk.<br>The system will prompt you to specify the destination path for files to be installed. The default is [Sys] < Sys >. If you are installing ORACLE in a different directory, enter the path. In the example configuration described in this document, the path is [Sys] < Oracle >.<br>***Note:*** *If you are going to use the example configuration you must change the path from the default to [Sys] < Oracle >.*<br>The system will prompt you to specify the path for database files to be installed. The default is [Sys] < Sys >. If you are installing ORACLE in a different directory, enter the path. In the example configuration described in this document, the path is [Sys] < Database >.<br>***Note:*** *If you are going to use the example configuration you must change the path from the default to [Sys] < Database >.*<br>When installation is complete, the system will prompt you to execute the ORACLE commands CCF and IOR after booting. You should press **GO** and re–boot, as instructed. Note that the database initialization files included in the example database configuration diskettes supplied with this document, and described in Section 5, will carry out the required CCF and IOR instructions. |

continued

**Table 4–3. ORACLE Software Installation Information** (cont.)

| Module | Comments and Advice |
|---|---|
| SQL*Plus | 2 disks. The system will prompt you to specify the destination path for files to be installed. In the example configuration described in this document, the path is [Sys] < Oracle >. You may wish to use this path, or any other, or keep to the default, [Sys] < Sys >.<br>***Note:*** *ORACLE must be installed and running before the SQL*Plus Help files are installed. The system will issue the prompt, "To install SQL*Plus Help files press <GO>, otherwise insert disk 2 now and press <CANCEL> <GO>". If you are installing ORACLE for the first time it will not be running at this stage. You should insert disk 2 and press* ***CANCEL – GO****.* |
| SQL*Loader | 1 disk. The system will prompt you to specify the destination path for files to be installed. In the example configuration described in this document, the path is [Sys] < Oracle >. You may wish to use this path, or any other, or keep to the default, [Sys] < Sys >. |

# Section 5
# Installing and Configuring an Example System

This section contains a description of an example management center connected to an example remote managed site. The section also contains information on how to configure the necessary software.

## Description

The example shown in Figure 5–1 consists of an IEM management center, connected to a remote managed site which uses Local Event Manager (LEM). The example includes the hardware required to implement a management center capable of performing all the essential IEM functions. As described in **Section 2, "Hardware"**, different models of workstations could be used, but the example configuration data supplied is for the system shown.

Implementing the example installation includes installation of LEM in the management center servers, so that the management center itself forms a managed site. A remote managed site is included, connected to the management center via an X.25 line. This installation enables controllers in the management center to manage Events originating from the management center in which they operate, as well as Events from the remote managed site.

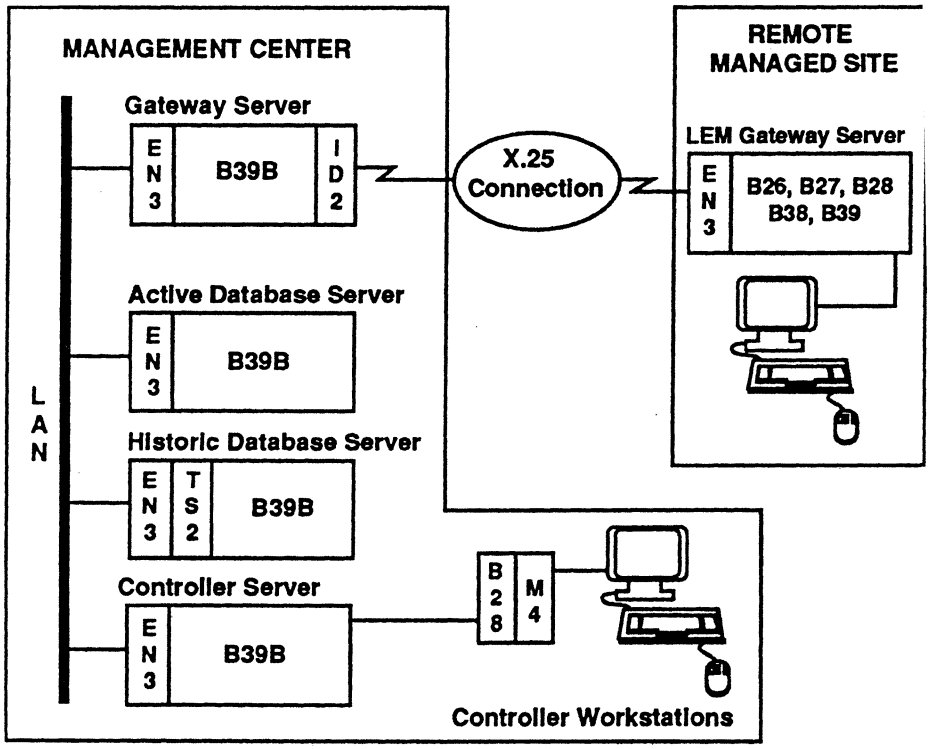


Figure 5–1. Example System Hardware

# Hardware Description

For ease of setup, in this example all management center servers are B39Bs.

Four B39B workstations are interconnected by a LAN. Physical connection to the LAN is through LAN modules (EN3s).

The IEM gateway server (in the management center) provides access to a remote managed site by means of an Intelligent Data Communications Module (ID2) connected to an X.25 communications line.

The historic database server, which is likely to store the largest amount of data, is equipped with a tape streamer (TS2) which is used for backing up disks.

In the example, other workstations do not have tape streamers, although they would be likely to be equipped with them in a real application.

The controller server hosts a B28 cluster workstation with Local File System (hard disk, shown in the figure as "LFS") which is used as a controller workstation.

The remote managed site consists of a CTOS workstation configured as a gateway server and called the LEM gateway server. The LEM gateway server is connected to the management center gateway server by an X.25 connection, across a public data network.

### Minimum Installation

IEM can be installed in a single B39B server or an XE–530 Shared Resource Processor. The example installation does not use the minimum of hardware possible, in order to illustrate some configuration aspects which are more complex in a multi–server installation.

## Software Installation

The following instructions are for the configuration of machines interconnected as shown in Figure 5–1, which are running the IEM package for the first time.

To simplify the installation process, install all of the IEM and LEM applications in each server in the example installation. If you wish to install only those applications and environment software which are necessary in each server, refer to Table 3–1.

Follow the procedure for installation of applications onto hard disk as given in Section 4.

# Software Configuration

The example system software is configured by the files on the diskette labeled B25IEM/GS-1. The diskette contains submit files which automate the process of copying the appropriate configuration files onto hard disk. In addition, the diskette includes table data for the databases, and procedures to load this data into the ORACLE databases.

The diskette contains the following types of file:

- CTOS configuration files such as **Config.Sys**
- Other environment software configuration files, for example, **BNetAddrs.Cfg**, and **X25PktParam.Cfg**
- Configuration files for IEM and LEM applications
- Scripts for creating ORACLE objects such as views
- Data files for loading into the database tables, such as SMS$LI, the lookup information table, and SMS$USER, the table of database users

# Single Server Management Center

Configuration files for single–server implementations are included on the same diskette as for multi-server implementations.

# Installing the Example Configuration Data

Ensure that the software is installed onto the hard disks in all machines.

Reboot and run only CTOS on all servers and workstations before proceeding.

You must configure each server and workstation in the example installation. Configuration data is specific to each type of machine, unlike the IEM and LEM applications, which can all be installed on every machine.

To install the example configuration, insert the diskette labeled B25IEM/GS–1 in the F0 drive and use the CTOS **Installation Manager** command. In a multi–server center, the same diskette is used with all servers and workstations.

***Note:*** *On controller servers and database servers, where ORACLE should be installed, ensure that ORACLE is not running before*

*proceeding. If ORACLE is running, the installation will halt and display an error message, and you will have to start afresh.*

*The example database creation scripts include commands which remove all ORACLE tables and data which are installed on the workstation before creating the example tables.*

## Installation Procedure

1. Insert the diskette in the workstation to be configured.
2. On the CTOS Executive command line enter the command:

   ```
   Installation Manager
   ```

   and press **GO**.
3. Use the cursor to select **Install New Software** from the menu, and press **GO**.

   From the next menu select **Floppy Installation** and press **GO**.

   The next menu will offer you **Change/Examine Defaults** or **Continue Installation**. If you select **Change/Examine Defaults**, fill in the form which appears and press **GO**.

   Select **Continue Installation** and press **GO**.

4. The system will display the following menu:

**Select Type of Machine**

- **Active Database Server**
- **Historic Database Server**
- **Controller Server**
- **IEM Gateway Server**
- **LEM Gateway Server**
- **Controller Workstation**

Use the cursor to select the type of machine which you are configuring, and press **GO**.

5. The system will display a menu of configuration files appropriate to the type of machine you are configuring. Select all the files shown, unless you have a specific reason for doing otherwise.

   Press **GO**.

   The files you selected will now be copied onto hard disk. The system will advise you of successful installation.

   Go to step 7 if you are configuring a gateway server or controller workstation.

6. If you are configuring a database server, or controller server, the following message will be displayed.

> **Database initialization files copied.**
> **Press any key to exit.**
> **To INITIALIZE database use command**
> **Batch Foreground**
> **with JCL file [Sys]<Sys>InitDB.Jcl**

   Press any key.

   The ORACLE database on the workstation will still contain any Event data which was in place before you started configuration.

   If you wish to clear all existing Event data from the database, execute the CTOS command Batch Foreground, and type in the JCL filename [Sys]<Sys>InitDB.Jcl. This will initialize the database.

7. The new configuration data is now loaded onto hard disk.
8. When you have installed the configurations onto hard disk on all machines, reboot them all, so that the new configuration will take effect.

To complete configuration you must now modify certain configuration files to include details which are unique to your installation.

# Modifying the Example Configuration

The example system configuration parameters are set up to provide a configuration which will work with a minimum of modification. Some parameters are hard–coded into pieces of hardware, and you will have to modify certain files to match these parameters. This section gives details of what changes are necessary in such cases, and what changes to make if, for example, you wish to use different node names from those in the example files.

## Remote Managed Site

The example system includes a remote managed site which is connected to the management center by an X.25 connection. Refer to CTOS X.25 documentation for further details on configuring the X.25 connection.

If you wish, you can connect a managed site to the management center by the LAN. This means equipping the LEM gateway server with a LAN Module, connecting it to the LAN, and modifying configuration files to include the LAN name and address of the IEM gateway server, as described for the servers in the management center.

# Files Which Need Modifying

Table 5–1 shows which files will need changes, which applications use those files, and what method to use to change the files.

**Table 5–1. Files Which Need Modifying**

| File Name | Application Name | Method of Modifying File |
|---|---|---|
| BNetAddrs.Cfg | BNET II | N C U command |
| OSILocalNSAPCnfg.Sys | OSI Session | Editor |
| LDMNames.Config | OTL | Editor |
| LAPBParam.Cfg | X.25 | Editor |
| X25PktParam.Cfg | X.25 | Editor |

# Configuration Change Details

The changes to the files listed in Table 5–1 are as follows.

## Changes to file BNetAddrs.Cfg

BNetAddrs.Cfg is a BNet configuration file which must contain the node names and addresses of all CTOS nodes on the LAN. You must obtain the node names and addresses, and enter them into BNetAddrs.Cfg as follows.

Each node on a BNet LAN has a node name and node address. You can normally choose any node names you wish, but for the example configuration, default names have been chosen. The node addresses are fixed. Node addresses are 12 hexadecimal digits prefixed by 490003, and suffixed by FE00. The 12 digits are 08000B40 followed by four hexadecimal digits which are hardwired into the LAN Module, followed by FE00.

To obtain your LAN Module addresses, use the LAN Diagnostics Monitor command on each server.

On the CTOS command line enter the command:

| |
|---|
| **LAN Diagnostics Monitor** |

and press **GO**.

Press **F1** (NODES).

The system will display node names and addresses, including the Local Node Name and Local LAN Address, whose last four hexadecimal digits are the LAN Module address.

Note the local name and address, and press **FINISH** to terminate LAN Diagnostics Monitor.

Use LAN Diagnostics Monitor in the same way to obtain the name and address of each of the four servers on the LAN in the management center.

BNetAddrs.Cfg is not a text file. To read or change the BNET addresses on the LAN, you must use the Network Configuration Utility.

On the CTOS command line enter the command:

| **Network Configuration Utility** |
|---|

and press **GO**.

Use **F1** to select the **NACT** option. The display shown in Figure 5–2 appears on the screen.

| | | |
|---|---|---|
| 1 | Node Name Map Through Node Name LSSAP<br>DbA 12 | TSelector, Net Address |
| | ,49000308000B40xxxxFE00 | |
| 2 | Node Name Map Through Node Name LSSAP<br>DbH 12 | TSelector, Net Address |
| | ,49000308000B40yyyyFE00 | |
| 3 | Node Name Map Through Node Name LSSAP<br>GATE 12 | TSelector, Net Address |
| | ,49000308000B40zzzzFE00 | |

**Figure 5–2. Network Configuration Utility Screen**

Each node on the LAN, other than the one on which NCU is running, must have an entry in this screen.

If the LAN is running, the details on this screen will be filled in automatically. The digits marked xxxx, yyyy and zzzz in the addresses should match the digits which you obtained with the LDM command. For each entry, the node name should match the LAN address. Note that LAN addresses are called Net Address on the NCU screen.

You can fill in any missing addresses, but note that a missing address indicates a server which is not communicating with the LAN.

## Changes to file LDMNames.Config

The file **LDMNames.Config** is used by the LAN Diagnostics Monitor, and matches LAN addresses to node names.

LDMNames.Config is a text file laid out as follows.

```
:Ctlr: 08 00 0B 40 45 84
:DbA:  08 00 0B 40 44 64
:DbH:  08 00 0B 40 84 9E
:Gate: 08 00 0B 40 0A 18
```

Modify the file using Editor.

Using the name–address pairs which you obtained with LDM, modify the last four hexadecimal digits in each address so that each line contains a node name and its corresponding address. Note that the addresses in this file are only the twelve digits, without the prefix and suffix described in the previous subsection.

This file should be the same on all servers in the LAN.

## Changes to file OSILocalNSAPCnfg.Sys

On each server in the management center and the remote managed site, this file must be modified to include the LAN address of the server.

OSILocalNSAPCnfg.Sys is a text file. Modify it using Editor. The file consists of many lines of descriptive comment, and one line commencing with a colon, as follows.

: 49 0003 08000B40xxxx FE

Modify the four digits shown as xxxx to match the LAN Module address for the server which contains the file, on each server in the management center and managed site.

### Changes to file LAPBParam.Cfg and X25PktParam.Cfg

These files contain data required by CTOS X.25 Gateway. They are only required on gateway servers.

You must obtain the details of the X.25 connection and modify these files to suit your particular installation.

## Example Configuration Data

The following subsections contain information about the configuration of the individual applications.

## Configuring the Database System

The files for configuring workstations which include ORACLE (controller server and database servers) contain lists of ORACLE commands (scripts) to create the databases.

The ORACLE relational database management system must be installed on the hard disks in the workstations before the example scripts are run.

## Configuring the Controller Server

The example configuration diskette includes commands to create tables in the database and insert data into these tables, on a controller server. The tables created are listed in Table 5–2.

**Table 5–2. Controller Server Example Tables**

| Table | Description of Data Supplied |
|---|---|
| SMS$USER | User data for database administrator and two controllers |
| SMS$DMAPPL | Application data for Event Display Manual, Event Display Auto and MEG |
| SMS$DMMENU | Menu data for two controllers, giving access to Event Display Manual, Event Display Auto and MEG |

continued

**Table 5–2. Controller Server Example Tables** (cont.)

| Table | Description of Data Supplied |
|---|---|
| SMS$DMCONFIG | Display Manager default values for database administrator and two controllers |
| SMS$LI | Context–sensitive help text to be displayed when help is invoked from Event Display |

# Configuring the Database Servers

The configuration diskette includes scripts to create tables in the database and insert data into these tables on database servers, as summarized in Table 5–3.

**Table 5–3. Tables and Data for Database Server**

| Table | Description of Data Supplied |
|---|---|
| SMS$USER | User data for database administrator and two controllers |
| SMS$EQ | Event qualification data for an Event |
| SMS$DD | Data specifying 4 domains in a tree structure |
| SMS$ND | Data specifying 5 nodes |
| SMS$EVENTSETS | Event table set definitions |
| SMS$EVENTS_A | Empty Event table for active Events |
| SMS$EH_A | Empty history table for active Events |
| SMS$EVENTS_H | Empty Event table for historic Events |
| SMS$EH_H | Empty history table for historic Events |

# Views

The configuration diskette includes commands to create views which give controllers access to the data stored for the types of Event shown in Table 5–4.

The views are created for CTLR1 and CTLR2 and DBA1, as specified by the CONNECT commands which precede the CREATE VIEW commands in the scripts shown in Section 6.

**Table 5–4. Example Views for Database Server**

| View Name | Originator or Generator of Event |
|---|---|
| EDVIEW_A_ALARMS | Alarm Events in active Event table set |
| EDVIEW_A_ASSIGNED | Assigned Events in active set |
| EDVIEW_A_BYPASSED | Bypassed Events in active set |
| EDVIEW_A_CLEARED | Cleared Events in active set |
| EDVIEW_A_DBI | Events inserted by DBI into active set |
| EDVIEW_A_DEFAULT | ED Default view of Events in active set |
| EDVIEW_A_LC | Events inserted by DBI into active set |
| EDVIEW_A_LOGEVENTS | Log Events in active set |
| EDVIEW_A_UNASSIGNED | Unassigned Events in active set |
| EDVIEW_A_MYEVENTS | Events in active set assigned to the ED user |
| EDVIEW_H_ALARMS | Alarm Events in historic Event table set |
| EDVIEW_H_ASSIGNED | Assigned Events in historic set |
| EDVIEW_H_BYPASSED | Bypassed Events in historic set |
| EDVIEW_H_CLEARED | Cleared Events in historic set |
| EDVIEW_H_DBI | Events inserted by DBI into historic set |
| EDVIEW_H_DEFAULT | ED Default view of Events in historic set |
| EDVIEW_H_LC | Events inserted by DBI into historic set |

continued

**Table 5–4. Example Views for Database Server** (cont.)

| View Name | Originator or Generator of Event |
|---|---|
| EDVIEW_H_LOGEVENTS | Log Events in historic set |
| EDVIEW_H_UNASSIGNED | Unassigned Events in historic set |
| EDVIEW_H_MYEVENTS | Events in historic set assigned to the ED user |

The diskette includes ORACLE commands to grant privileges to users as appropriate.

# Section 6
# Starting Up the Example System

This section tells you how to run the example system, and describes the output from the system, as a functional check.

## Where To Start

Before proceeding with this section, ensure that:

- The software and configuration files listed in Section 7 are installed on the servers and workstations specified.
- The hardware is interconnected as described in Section 5. Your system may differ from the example in certain ways, and still operate with the example configuration files, providing you make appropriate modifications. For example, the remote managed site may be connected directly to the LAN rather than via an X.25 link.

## Starting Up

When the software is installed, start up the system as described in the following subsections.

### Starting the Hardware

Turn on or reboot the servers and then the workstations.

Error messages will be generated where workstations are not yet ready to receive input when it is sent.

## Starting the Software

The SysInit.Jcl files, listed in Section 7, will start up the required software in the correct order on each machine.

The following procedures are described in detail in the *IEM Operations Guide.*

When all workstations have completed booting up, run Display Manager on the controller workstation.

Using Display Manager, invoke Event Display Auto.

From the Control menu, select **GO**.

The display shown in Figure 6–1 will appear on the screen, with details of the most recent Events in the database. If you initialized the database, the Events shown will have been generated since the system was booted up.

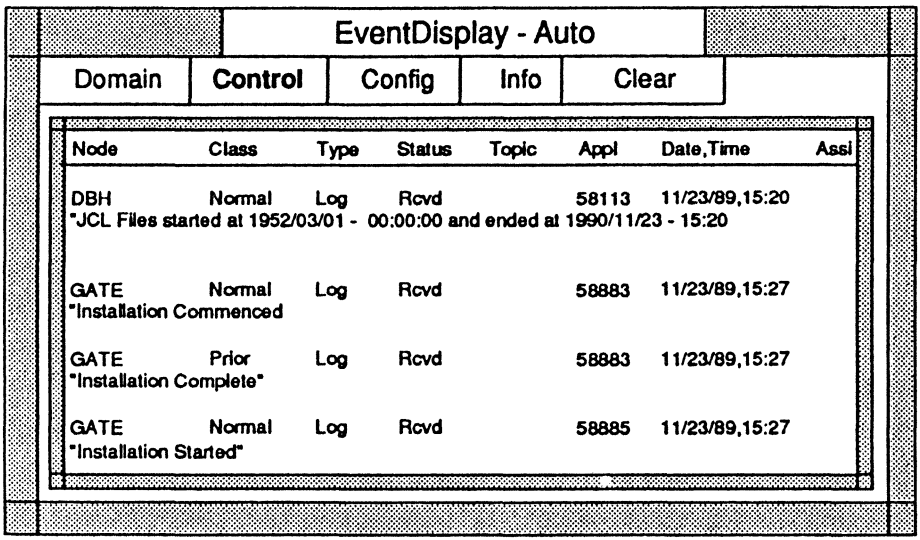


**Figure 6–1. Event Summary Window**

## Testing the System

Each server which is running LEM should act as an originator of Events.

To observe Events from a server, run Local Manual Event Generator on the server, as follows:

1. On the CTOS command line type L M E G and press **GO**.
2. Enter any message text you wish in the **Message Text** area.
3. Use the cursor to select a Class of **Major** or **Fatal**.
4. Press **GO**.

This procedure should generate an Event which will be transmitted to the Event database, and will be displayed on the Event Display screen.

# Section 7
# Example System Software

This section provides lists of IEM run files and configuration files supplied on the diskette labeled B25IEM/GS–1.

Lists of configuration files for the example system and for single–server implementations of IEM in a B39 and in an XE–530 are included.

## Using the Getting Started Diskettes

The diskette labeled B25IEM/GS–1 provides configuration data and database creation scripts which you can use to configure four servers to implement the example IEM management center.

The diskette also provides configuration data and database creation scripts which you can use to configure single–server implementations of IEM using a B39 or an XE–530.

You should copy and use the files on these diskettes as a starting point when configuring your own IEM implementation.

## Software Installed

In the example system, all environment software and all the IEM and LEM applications are installed in each management center server.

Table 7–1 gives the names of the IEM applications and shows their component run file names. If you do not wish to install all the applications on every server, refer to Tables 3–1 and 3–2, which list software requirements according to type of server.

**Table 7–1. IEM Software Run Files**

| Application or Command Name | Abbreviation | Component Files |
|---|---|---|
| Database Insert utility | DBI | DBI.Run |
| Deinstall DBI | | DeinstallDBI.Run |
| Compare Table Utility | CTU | CTU.Run |
| Move Event Utility | MEU | MEU.Run |
| Prepare EQ Utility | PEU | PEU.Run |
| Display Manager | DM | DisplayManager.Run |
| Event Display | ED | EventDisplay.Run |
| ED Report | – | EDReport.Run |
| Manual Event Generator | MEG | MEG.Run |
| Video Player | VP | VP.Run |
| Video Recorder | VR | VR.Run |
| Video Recorder Command and Control Utility | VCCU | VCCU.Run |

# Example System Configuration Files

The example system is implemented on four servers. These are: a gateway server, a controller server, an active database server, and an historic database server.

Configuration files for the example system are supplied on the diskette B25IEM/GS–1. The files for each type of server are in directories on this disk called GATE, CTLR, DBA and DBH respectively.

# Single Server Configuration

Configuration files for a single–server implementation using a B39 or an XE–530 are supplied on the diskette.

Table 7–2 lists the files supplied on the Getting Started diskette.

**Table 7–2. Configuration Files**

| File Type | Filename | Purpose |
|---|---|---|
| Database Configuration | | |
| | CreateDb.sql | Creates the database on the server |
| | CreateNewAdmin.Sql | Adds a user with DBA privileges to the database |
| | CreateNewUser.Sql | Adds a non–DBA user to the database |
| | Dbs_Init.ora | ORACLE configuration file |
| | InitDB.Jcl | Initiates the database (clears all tables) |
| | ORACLE.Config | Configuration data for ORACLE |
| CTOS Configuration | | |
| | BNETAddrs.Cfg | Network address and mapping information |
| | CMConfig.Sys | Configuration data for Context Manager |
| | Config.Sys | CTOS configuration data |
| | LDMNames.Config | LAN node names and MAC addresses (for BTOS OSI Transport LAN) |
| | OSILocalESISCfg.Sys | Defines broadcast address (for BTOS OSI Transport LAN) |
| | OSILocalNSAPCfg.Sys | Defines local MAC address |
| | Sysinit.JCL | Files to be run when CTOS is started up |
| | SrpConfig.M.Sys | Config.Sys for XE–530 |
| | SysInit.M.Jcl | Sysinit.Jcl for XE–530 |

continued

**Table 7–2. Configuration Files** (cont.)

| File Type | Filename | Purpose |
|---|---|---|
| IEM Configuration | | |
| | MEG.Cfg | Configurations for manually generated Events |
| LEM Configuration | | |
| | ET.Cmd | Command file for Event Transmitter |
| EM Configuration | | |
| | EMConfig.Sys | Event Manager configuration data |
| | RAFSourceProfile.Sys | RAF source profile (binary) |
| | RAFTargetProfile.Sys | RAF target profiles (binary) |
| | NodeMstrTargetProfile.Sys | RAF target profiles for LEM server |
| | XEMstrTargetProfile.Sys | RAF target profiles for XE–530 |

41640152-000